REMARKS

Reconsideration and allowance are requested.

Claims 12 and 13 stand rejected under 35 U.S.C. 112, first paragraph. This rejection is respectfully traversed.

The Examiner contends that the claimed computer program product was not described in the original disclosure. Applicants disagree. Page 6, lines 11-13 state: "The above method can be implemented both as a computer program product comprising program code portions for performing the method and as a hardware solution." The Examiner admits that the steps of claim 1 are adequately described. So originally filed claim 12 has explicit written description support in the application as filed. Moreover, one of ordinary skill in the art would certainly appreciate that such a computer program product would normally include program code or instructions stored on a computer-readable medium, e.g., a memory. This feature from original claim 13 has been included in claim 12 because the USPTO often requires computer program product claims to explicitly recite that the program code or instructions stored on a computer-readable medium. Withdrawal of the rejection is requested.

Applicants note with appreciation the indication of allowable subject matter in claims 6, 8, 11, and 16. For the reasons explained below, all pending claims are allowable.

Most of the rejected claims are rejected under 35 U.S.C. §103 based on the combination of McFarland and Matheus. This rejection is respectfully traversed.

The Examiner relies on col. 7, lines 50-57 of McFarland as teaching adjusting a phase slope in frequency for signals received by the DFT circuit 352 and performing channel correction on the DFT output signals based on the channel estimation obtained from the channel estimation

and pilot phase tracking circuit 326. From this, the Examiner concludes the McFarland teaches that the channel estimation is performed after the phase-slope adjustment. Applicants disagree.

Claim 1 defines three steps:

- determining a phase ramp comprised in a received signal after timing synchronization,
- processing the received signal to remove the phase ramp or equivalent thereof,
- estimating channel coefficients on the basis of the processed received signal.

The claim language recites that the channel coefficient estimation is performed on the basis of the processed received signal, i.e., the received signal with the phase ramp or equivalent thereof removed.

McFarland fails to teach that channel estimation is performed based on the received signal with the phase-slope or equivalent thereof removed. As the Examiner indicates, the six DFT outputs of the DFT circuit 352 in McFarland are considered to correspond to the "processed received signal" upon which a phase-slope adjustment is performed before they are input to the subsequent channel correction circuit 356. However, these six phase-slope adjusted DFT outputs are not fed to the channel estimation and pilot phase tracking circuit 326. So they cannot form the basis for the channel estimation. For instance, Fig. 3 clearly shows that the DFT outputs are fed to the channel correction circuit 356 only and not to the channel estimation and pilot phase tracking circuit 326. Therefore, McFarland does not teach estimation of channel coefficients based on the processed received signal, where the processed received signal means the received signal with the phase ramp thereof removed.

In fact, McFarland's channel estimation is based on the "long training symbol sequence" (column 3, lines 38 to 40), which is not part of the "received signal after timing

synchronization." Column 7, lines 31 to 37 disclose that the symbol timing circuit 322 waits a period of time corresponding to the long training symbols before it commands the DFT circuit 352 to start obtaining an incoming signal 100. Since the long training symbols do not belong to the "received signal after timing synchronization," McFarland's channel estimation cannot be considered as performed on the basis of the processed received signal.

In short, McFarland fails to teach "estimating the channel coefficients on the basis of the processed received signal" recited in claim 1. The other independent claims recite an analogous feature. This same feature is missing form Matheus.

Matheus relates to a sub-carrier selection and frequency correction process based on available channel coefficients. See Fig. 8 and column 17, lines 40-50. Matheus discloses a frequency tracking device (FTD) shown in Fig. 8 that comprises a selector SEL which selects on the basis of N channel coefficients (C_{est}) a number M of sub-carriers corresponding to the M channel coefficients having the largest absolute values. The FTD has an evaluator EVAL that determines a frequency deviation estimate ($f_{off, est}$) based on the selected M sub-carriers and the selected M channel coefficients. The FTD also has a frequency corrector (CORR1 and/or CORR2) for correcting the frequency deviation introduced into the received multi-carrier symbols based on the determined frequency deviation estimate ($f_{off, est}$).

So the channel estimation coefficients in Matheus are used, as available input parameters, for the estimation and correction of frequency deviation. But there is no teaching in Matheus of estimating channel coefficients themselves. In fact, Matheus confirms in column 5, lines 25-26 that the channel estimation coefficients are considered known parameters. Thus, even if one could combine MacFarland and Matheus, that combination still fails to teach "estimating the channel coefficients on the basis of the received signal with the phase ramp thereof removed"

(i.e. the processed received signal). Nor do MacFarland or Matheus remove the phase ramp from the received signal before channel coefficient estimation is performed on the so-processed received signal. In addition, because Matheus is not concerned about channel coefficient estimation, why would a person skilled in the art have been motivated to combine the teachings of Matheus with MacFarland to arrive at a method for channel coefficient estimation?

The application is in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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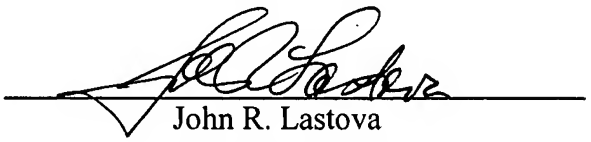
By: 

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